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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,025	12/28/1999	OK MOON KWAK	K139	1762

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EXAMINER
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LY, ANH VU H

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 02/26/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

**Application No.**

09/474,025

**Applicant(s)**

KWAK ET AL.

**Examiner**

Anh-Vu H Ly

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-22 and 24-31 is/are rejected.
- 7) ☒ Claim(s) 7-9 and 23 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-6, 10-21, and 24-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Jaakkola et al (US Patent No. 6,356,537). Hereinafter, referred to as Jaakkola.

With respect to claims 1, 6, 10-11, and 20-21, Jaakkola discloses in Fig. 1, broadband wireless system architecture such as LMDS (local multipoint distribution system) or LMCS (local multipoint communications system) including a number of CPEs 24, BTS 14, ATM (backbone) network 18, and the network manager 22. Herein, the ATM (backbone) network comprising a number of ATM switches is considered as a component of the central office by the examiner. Herein, data from different sources in the ATM network heading to the same destination, associated with the BTS 14 in a defined geographical area or cell such as PBX 24, Fig. 1, is multiplexed and/or vice versa. Further, data transmissions between the ATM network 18 and the BTS 14 are cells, each cell comprising 53 bytes (a central office for multiplexing a

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downstream data stream having ATM cell structure or de-multiplexing an upstream data having ATM cell structure).

Jaakkola discloses in Fig. 2, a high level illustration of a BTS comprising modules for modulating and de-modulating the multiplexed data for transmissions over air. Herein, the BTS is considered as a head-end by the examiner (a head-end unit for modulating the multiplexed downstream data stream having ATM cell structure provided from the central office unit and de-modulating an inputted upstream data into the data stream and forwarding the data stream to the central office unit).

Jaakkola discloses in Fig. 1, BTS 14 and ATM network 18 are wired for carrying ATM cells. Therefore, a connection is set before cells can be carried over the wires since the ATM network 18 connects to a multiple number of BTS (one of the central office unit or the head-end unit establishes a virtual channel between the central office unit and the head-end unit to enable bi-directional communication in a communication network). Further, ATM network comprising a number of ATM switches for switching data between the stations connected to, therefore, routing data originated from the PBX 24 (customer subscriber) to one of the stations connected to the ATM switch, MAC protocol comprising MAC address is used for such purpose (provide a MAC protocol for routing a data including the data stream, downstream data stream, and upstream data stream to a corresponding destination).

With respect to claims 2 and 4, Jaakkola discloses in Fig. 9, the functional units of the ARIC, resided within the BTS, comprising processor 116 for configuring and controlling the ARIC (a processor connected to the central office unit analyzing and routing data to the

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corresponding destination and providing a control data based on the data) and back plane interface 122 and ATM traffic management controller (ATMC) 124 for setting up connections (a signaling circuit for connecting the virtual channel according to the control data of the processor).

With respect to claims 3 and 25-31, Jaakkola discloses in Figs. 2 and 9 the functional units of the ARIC for modulating, converting, combining, outputting data stream, etc... to the subscriber and vice versa.

With respect to claim 5, Jaakkola discloses in Fig. 1, the broadband wireless system comprising the network manager 22 for managing the connections between the BTS and the subscribers, therefore, knowing and storing information regarding the subscribers are necessary (at least one server for managing a database for storing a service profile of each of the plurality of subscribers).

With respect to claim 12, Jaakkola discloses in Figs. 2 and 9 the functional units of the ARIC for modulating, converting, combining, and outputting data stream to the subscriber and vice versa. Herein, the BTS is also considered as an outdoor unit by the examiner (an outdoor unit for amplifying and providing frequency conversion to the modulated downstream data from the head-end unit for transmission to the corresponding destination and for amplifying and providing frequency conversion to an upstream data from the corresponding destination as upstream data stream for transmission to the head-end unit).

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With respect to claim 13, Jaakkola discloses in Fig. 1, the transmitted modulated data stream is received by the network interfaces 12 of the subscribers, herein, signals are demodulated, amplified, etc... further, forwarded to the corresponding subscribers such as PBX attached to telephone units for the MUX, reverse processing steps are applied when data travels backward (an indoor unit that receives and modulates the amplified downstream data from the outdoor unit and transmits upstream data to the outdoor unit and a peripheral device that receives the modulated amplified downstream data from the indoor unit and transmit the upstream data to the indoor unit).

With respect to claims 14-17 and 24, Jaakkola discloses in Fig. 1, a broadband wireless system such as LMDS or LMCS for transmissions data according to ATM cells between the ATM network (herein, considered as a component of the central office by the examiner), BTS, CPEs such as PBX, MUX and telephone units coupled to PBX. Therefore, signaling messages exchange between devices according to ATM protocol and communication paths are then formed before transmissions start.

With respect to claim 18, Jaakkola discloses in Figs. 6 and 7 the back plane adaptation and interface adaptation of the ARIC (providing a constant correspondence relation between a local identification and a virtual path identifier/virtual channel identifier (VPI/VCI) identifying each user application from all user applications).

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With respect to claim 19, Jaakkola discloses in Fig. 1, the broadband wireless system supporting low bandwidth service employing TDMA/QPSK and high bandwidth services employing FDMA/QAM (necessary service quality is supported to the head-end unit according to a negotiation by a signal processing when providing the constant correspondence relation).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jaakkola in view of Raychaudhuri et al (US Patent No. 5,638,371). Hereinafter, referred to as Jaakkola and Raychaudhuri.

With respect to claim 22, Jaakkola discloses in Fig. 1, a broadband wireless system for data transmissions in a local multipoint distribution system comprising an ATM network (a switch that switches inputted asynchronous transfer mode cell data and a SAR circuit and a signal processor for segmenting output data and assembling processed data from the signal processor). Jaakkola does not disclose a usage parameter control circuit, coupled to the central office unit that detects errors in the established call connections and controls the usage of the established call connection. Raychaudhuri discloses an error control process, Fig. 8, for detecting errors and controlling usage of the established call connection. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include such

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error control process in Jaakkola's system, as suggested by Raychaudhuri, to control data transmissions.

***Allowable Subject Matter***

3. Claims 7-9 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-31 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Evans et al (US Patent No. 6,151,312) discloses network protocol for wireless broadband ISDN using ATM.

Siu et al (US Patent No. 6,522,641) discloses a fixed wireless point-to-multipoint distribution network for providing communication coverage to plurality of subscribers.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600-2/23/09